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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/564,943	05/09/2006	Shigeo Iizuka	126691	5357
25944 7590 06/05/2009 OLIFF & BERRIDGE, PLC P.O. BOX 320850 ALEXANDRIA, VA 22320-4850				
EXAMINER				
SHEARER, DANIEL R				
ART UNIT		PAPER NUMBER		
3754				
MAIL DATE		DELIVERY MODE		
06/05/2009		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/564,943

Applicant(s)

IIZUKA ET AL.

Examiner

DANIEL R. SHEARER

Art Unit

3754

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 March 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SF/ICE)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over English translation of JP 2002-159893 to Tetsuo.

In Reference to Claim 1

Tetsuo teaches:

A foamer dispenser (1) comprising: a base cap (3) fixedly held at a container mouth; two pumps (A and B) attached to the base cap and configured to separately suck, pressurize, and pressure-feed ambient air and the liquid contents filled in the container (Detailed Description, Pg. 7-8, ¶ 0049-0051); a depression head (4) for defining a merging space (C) for merging outlet passages of the pumps with each other, the depression head having an ejecting end (43) communicated with the outside, and the depression head having an internal passage for communicating the merging space with the ejecting end (G), so as to eject contents mixed with the ambient air from the ejecting end by repeating depressing and returning operations of the depression head (Detailed Description, Pg. 7-8, ¶ 0049-0051); and a foaming element (71, 19 and D) disposed within the

internal passage of the depression head (Drawing 3) and configured to foam the contents mixed with the ambient air (Detailed Description, Pg. 8, ¶ 0051); wherein said foaming element comprises: a jet ring (19 and 71) having an inlet opening (D) with an opening area narrower than that of said internal passage of said depression head (Drawing 3), the jet ring comprising a tubular body (Drawing 6) with an opening area larger than that of the inlet opening and communicated with said internal passage of said depression head (Drawing 3); and a mesh (M in examiner annotated figure below) disposed within said tubular body of said jet ring so as to face to said inlet opening of said jet ring (See examiner annotated figure below), said mesh having a number of fine holes to be contacted with the contents mixed with the ambient air and supplied from said inlet opening to allow a part of the contents to pass through said mesh (Detailed Description, Pg. 6, ¶ 0035); and wherein said mesh has an opening diameter larger than that of the inlet opening of said jet ring (See examiner annotated figure below).

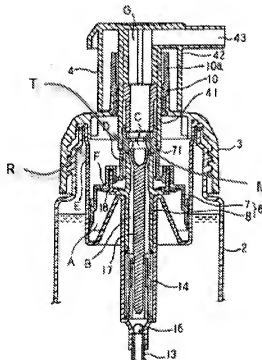
Tetsuo fails to teach

Wherein said mesh has an opening diameter $\Phi 2$ which is 2.0 to 3.5 times as large as an opening diameter $\Phi 1$ at the inlet opening of said jet ring.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have manufactured the foamer dispenser of Tetsuo with

Art Unit: 3754

the specified ratio of the diameter of the mesh opening to diameter of the inlet opening since it has been held where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. (See MPEP 2144.05).



(Drawing 4 from Tetsuo, annotated by examiner)

In Reference to Claim 2

Tetsuo teaches:

The foamer dispenser according to claim 1 (see rejection of claim 1 above).

Tetsuo fails to teach:

Wherein said mesh has the opening diameter $\Phi 2$ which is 2.2 to 3.2 times as large as the opening diameter $\Phi 1$ at said inlet opening of said jet ring.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have manufactured the foamer dispenser of Tetsuo with the specified ratio of the diameter of the mesh opening to diameter of the inlet opening since it has been held where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. (See MPEP 2144.05).

In Reference to Claim 3

Tetsuo teaches:

The foamer dispenser according to claim 1 (see rejection of claim 1 above), wherein said jet ring has a tapered surface (T in examiner annotated figure above) or curved surface connecting between said inlet opening and said mesh.

In Reference to Claim 4

Tetsuo teaches:

The foamer dispenser according to claim 1, wherein said pumps consist of a dual pump comprising: a cylinder (5) suspended from a lower surface of said base cap (3), and configured to cooperate with an inner periphery of the mouth of the container to define an annular gap (R in examiner annotated figure above) therebetween which is communicated

with an interior of the mouth and sealed by said base cap (Drawing 3);
and two pistons (7 and 8) arranged in series with each other within said cylinder so as to be slidable therein (Detailed Description, Pg. 3, ¶ 0016);
and wherein said pistons are configured to separately suck, pressurize, and pressure-feed the contents within the container and the ambient air (Detailed Description, Pg. 7-8, ¶ 0049-0051).

In Reference to Claim 5

Tetsuo teaches:

The foamer dispenser according to claim 4, wherein said dual pump is formed with an ambient air introduction port (E) at a cylinder portion (5) constituting the pump for sucking, pressurizing, and pressure-feeding the ambient air, the ambient air introduction port being blocked by said piston (Detailed Description, Pg. 4, ¶ 0023) for sucking, pressurizing, and pressure-feeding the ambient air when said piston is in a stationary state (Drawing 3) where said piston is kept unslid, and the ambient air introduction port being released from said piston when said piston is depressed, to thereby introduce ambient air into the container (Drawing 4).

Response to Arguments

3. Applicant's arguments filed 3/18/2009 have been fully considered but they are not persuasive. Applicant asserts on page 5 of the response that the diameter ratio $\Phi 2/\Phi 1$ of the jet ring plays a crucial role in ejecting fine and homogeneous foam and that

one of ordinary skill would not have looked to optimize this ratio to achieve superior results. It is noted that there are numerous variables involved in producing foam with a pump including, but not limited to: the viscosity of the soap solution to be dispensed, the volume of the air chamber, the size of the ducts and orifices within the pump, the material of the pump chambers and pump components, the size of the holes in the mesh screen, the size of the outlet orifice, the amount of force exerted by the user when depressing the pump head, and the temperature of the air and soap solution to be dispensed. Applicant fails to provide any evidence that with all variables held constant, the recited ratio of diameters results in the desired foam. Applicant asserts on page 4 of the response that if the diameter ratio $\Phi 2 / \Phi 1$ is lower than 2.0 or higher than 3.5, there arises a noticeable tendency that fine and homogeneous foams are not obtained. It is noted that there is no benchmark, metric or defined parameters for fineness or homogeneity of foam, as stated by applicant on page 4 of the response, and the measurement of fineness of the foam is based on the observations of various persons. Therefore the criticality of the specific recited ratio is not definite since with no stated definition of what constitutes an acceptable level fineness or homogeneity, the observations of different people will be inconsistent. Therefore, in order to achieve the desired characteristics of the foam to be dispensed, one of ordinary skill would look to modify and optimize the various parameters recited above including the size of the ducts and orifices which would necessarily include defining and optimizing a diameter ratio of the jet ring.

Conclusion

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DANIEL R. SHEARER whose telephone number is (571)270-7416. The examiner can normally be reached on Monday through Friday 8:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kevin Shaver can be reached on (571)272-4720. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/D. R. S./
Examiner, Art Unit 3754

/Kevin P. Shaver/
Supervisory Patent Examiner, Art Unit 3754